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APR 24 2002

TECH CENTER 1600/2900



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RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/843,250

DATE: 03/04/2002

TIME: 15:02:39

Input Set : A:\09-843250 Sequence Listing.txt

Output Set: N:\CRF3\03042002\I843250.raw

4 <110> APPLICANT: Parales, R.
 5 Gibson, D.
 6 Resnick, S.
 7 Lee, K.
 9 <120> TITLE OF INVENTION: Novel naphthalene dioxygenase and methods for their use
 11 <130> FILE REFERENCE: 875.006US2
 13 <140> CURRENT APPLICATION NUMBER: US 09/843,250
 14 <141> CURRENT FILING DATE: 2001-04-26
 16 <150> PRIOR APPLICATION NUMBER: PCT/US99/25079
 17 <151> PRIOR FILING DATE: 1999-10-26
 19 <150> PRIOR APPLICATION NUMBER: US 60/105,575
 20 <151> PRIOR FILING DATE: 1998-10-26
 22 <160> NUMBER OF SEQ ID NOS: 65
 24 <170> SOFTWARE: FastSEQ for Windows Version 4.0
 26 <210> SEQ ID NO: 1
 27 <211> LENGTH: 2265
 28 <212> TYPE: DNA
 29 <213> ORGANISM: Artificial Sequence
 31 <220> FEATURE:
 32 <223> OTHER INFORMATION: A sequence encoding an NDO mutant.
 34 <400> SEQUENCE: 1

35	gagggtagag	aaatcgaatg	ccccttgcat	caaggtcggg	ttgacgtttg	cacaggcaaaa	60
36	gccctgtgcg	cacccgtgac	acagaacatc	aaaacatata	cagtcaagat	tgagaacctg	120
37	cgcgtaatat	ttgatttgag	ctaagaattt	taacaggagg	caccccgggc	cctagagcgt	180
38	aatcaccccc	attccatctt	tttttaggtg	aaacatgaat	tacaataata	aaatcttggt	240
39	aagtgaatct	ggtctgagcc	aaaagcacct	gattcatggc	gatgaagaac	ttttccaaca	300
40	tgaactgaaa	accatttttg	cgcggaactg	gctttttctc	actcatgata	gcctgattcc	360
41	tgcccccggc	gactatgtta	ccgcaaaaat	ggggattgac	gaggtcatcg	tctcccggca	420
42	gaacgacggt	tcgattcgtg	ctttttctgaa	cgtttgccgg	catcgtggca	agacgctggt	480
43	gagcgtggaa	gccggcaatg	ccaaagggtt	tgtttgcagc	tatcacggct	ggggcttcgg	540
44	ctccaacggt	gaactgcaga	gcgttccatt	tgaaaaagat	ctgtacggcg	agtcgctcaa	600
45	taaaaaatgt	ctgggggttg	aagaagtcgc	tcgcgtggag	agcttccatg	gcttcatcta	660
46	cggttgcttc	gaccaggagg	cccctcctct	tatggactat	ctgggtgacg	ctgcttggtg	720
47	cctggaacct	atgttcaagc	attccggcgg	tttagaaactg	gtcggtcctc	caggcaaggt	780
48	tgtgatcaag	gccaactgga	aggcacccgc	ggaaaacttt	gtgggagatg	cataccacgt	840
49	gggttgagcg	cacgcgtctt	cgcttcgctc	gggggagtc	atcttctcgt	cgctcgctgg	900
50	caatgcggcg	ctaccacctg	aaggcgcagg	cttgcaaatg	acctccaaat	acggcagcgg	960
51	catgggtgtg	ttgtgggacg	gatattcagg	tgtgcatagc	gcagacttgg	ttccggaatt	1020
52	gatggcattc	ggaggcgcaa	agcaggaaaag	gctgaacaaa	gaaattggcg	atgttcgcgc	1080
53	tcgggatttat	cgagccacc	tcaactgcac	cgttttcccg	aacaacagca	tgctgacctg	1140
54	ctcgggtgtt	ttcaaaagtat	ggaaccgcgat	cgacgcaaac	accaccgagg	tctggacctg	1200
55	cgccattgtc	gaaaaagaca	tgcttgagga	tctcaagcgc	cgcttgcccg	actctgttca	1260
56	gcgaacggtc	gggcctgctg	gcttctggga	aagcgacgac	aatgacaata	tggaacacgc	1320

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57 ttcgcaaaac ggcaagaaat atcaatcaag agatagtgat ctgctttcaa accttggttt 1380
58 cggtgaggac gtatacggcg acgcggtcta tccaggcgtc gtcggcaaat cggcgatcgg 1440
59 cgagaccagt tatcgtggtt tctaccgggc ttaccaggca cacgtcagca gctccaactg 1500
60 ggctgagttc gagcatgcct ctagtacttg gcatactgaa cttacgaaga ctactgatcg 1560
61 ctaacagacg agtcgaccat gatgatcaat attcaagaag acaagctggt ttccgcccac 1620
62 gacgccgaag agattcttcg tttcttcaat tgccacgact ctgctttgca acaagaagcc 1680
63 actacgctgc tgaccaggga agcgcatitt ttggacattc aggcttaccg tgcttggtta 1740
64 gagcactgcy tgggggtcaga ggtgcaatat caggtcattt cacgcgaact gcgcgcagct 1800
65 tcagagcgtc gttataagct caatgaagcc atgaacgttt acaacgaaaa ttttcagcaa 1860
66 ctgaaagtgc gaggttgagca tcaactggat ccgcaaaaact ggggcaacag cccgaagctg 1920
67 cgctttactc gctttatcac caacgtccag gccgcaatgg acgtaaatga caaagagcta 1980
68 cttcacatcc gctccaacgt cattctgcac cgggcacgac gtggcaatca ggtcgaatgc 2040
69 ttctacgccg cccgggaaga taaatggaaa cgtggcgaag gtggagtacg aaaattggtc 2100
70 cagcgattcg tcgattaccc agagcgcata cttcagacgc acaatctgat ggtctttctg 2160
71 tgattcagtg accattttta caaatggtca ctgcaaccgc ggtcaccatt aatcaaaggg 2220
72 aatgtacgtg tatgggcaat caacaagtcg tttcgataac cggtg 2265

```

74 <210> SEQ ID NO: 2

75 <211> LENGTH: 449

76 <212> TYPE: PRT

77 <213> ORGANISM: Artificial Sequence

79 <220> FEATURE:

80 <223> OTHER INFORMATION: A polypeptide encoded by SEQ ID NO:1

82 <400> SEQUENCE: 2

```

83 Met Asn Tyr Asn Asn Lys Ile Leu Val Ser Glu Ser Gly Leu Ser Gln
84 1 5 10 15
85 Lys His Leu Ile His Gly Asp Glu Glu Leu Phe Gln His Glu Leu Lys
86 20 25 30
87 Thr Ile Phe Ala Arg Asn Trp Leu Phe Leu Thr His Asp Ser Leu Ile
88 35 40 45
89 Pro Ala Pro Gly Asp Tyr Val Thr Ala Lys Met Gly Ile Asp Glu Val
90 50 55 60
91 Ile Val Ser Arg Gln Asn Asp Gly Ser Ile Arg Ala Phe Leu Asn Val
92 65 70 75 80
93 Cys Arg His Arg Gly Lys Thr Leu Val Ser Val Glu Ala Gly Asn Ala
94 85 90 95
95 Lys Gly Phe Val Cys Ser Tyr His Gly Trp Gly Phe Gly Ser Asn Gly
96 100 105 110
97 Glu Leu Gln Ser Val Pro Phe Glu Lys Asp Leu Tyr Gly Glu Ser Leu
98 115 120 125
99 Asn Lys Lys Cys Leu Gly Leu Lys Glu Val Ala Arg Val Glu Ser Phe
100 130 135 140
101 His Gly Phe Ile Tyr Gly Cys Phe Asp Gln Glu Ala Pro Pro Leu Met
102 145 150 155 160
103 Asp Tyr Leu Gly Asp Ala Ala Trp Tyr Leu Glu Pro Met Phe Lys His
104 165 170 175
105 Ser Gly Gly Leu Glu Leu Val Gly Pro Pro Gly Lys Val Val Ile Lys
106 180 185 190
107 Ala Asn Trp Lys Ala Pro Ala Glu Asn Phe Val Gly Asp Ala Tyr His
108 195 200 205

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RAW SEQUENCE LISTING

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Input Set : A:\09-843250 Sequence Listing.txt

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```

109 Val Gly Trp Thr His Ala Ser Ser Leu Arg Ser Gly Glu Ser Ile Phe
110      210                      215                      220
111 Ser Ser Leu Ala Gly Asn Ala Ala Leu Pro Pro Glu Gly Ala Gly Leu
112 225                      230                      235                      240
113 Gln Met Thr Ser Lys Tyr Gly Ser Gly Met Gly Val Leu Trp Asp Gly
114                      245                      250                      255
115 Tyr Ser Gly Val His Ser Ala Asp Leu Val Pro Glu Leu Met Ala Phe
116                      260                      265                      270
117 Gly Gly Ala Lys Gln Glu Arg Leu Asn Lys Glu Ile Gly Asp Val Arg
118                      275                      280                      285
119 Ala Arg Ile Tyr Arg Ser His Leu Asn Cys Thr Val Phe Pro Asn Asn
120                      290                      295                      300
121 Ser Met Leu Thr Cys Ser Gly Val Phe Lys Val Trp Asn Pro Ile Asp
122 305                      310                      315                      320
123 Ala Asn Thr Thr Glu Val Trp Thr Tyr Ala Ile Val Glu Lys Asp Met
124                      325                      330                      335
125 Pro Glu Asp Leu Lys Arg Arg Leu Ala Asp Ser Val Gln Arg Thr Val
126                      340                      345                      350
127 Gly Pro Ala Gly Phe Trp Glu Ser Asp Asp Asn Asp Asn Met Glu Thr
128                      355                      360                      365
129 Ala Ser Gln Asn Gly Lys Lys Tyr Gln Ser Arg Asp Ser Asp Leu Leu
130                      370                      375                      380
131 Ser Asn Leu Gly Phe Gly Glu Asp Val Tyr Gly Asp Ala Val Tyr Pro
132 385                      390                      395                      400
133 Gly Val Val Gly Lys Ser Ala Ile Gly Glu Thr Ser Tyr Arg Gly Phe
134                      405                      410                      415
135 Tyr Arg Ala Tyr Gln Ala His Val Ser Ser Ser Asn Trp Ala Glu Phe
136                      420                      425                      430
137 Glu His Ala Ser Ser Thr Trp His Thr Glu Leu Thr Lys Thr Thr Asp
138                      435                      440                      445
139 Arg

```

142 <210> SEQ ID NO: 3

143 <211> LENGTH: 9841

144 <212> TYPE: DNA

145 <213> ORGANISM: Artificial Sequence

147 <220> FEATURE:

148 <223> OTHER INFORMATION: A modified DNA molecule encoding valine at the
 149 position corresponding to the F352 amino acid in

150 NDO.

152 <400> SEQUENCE: 3

```

153 gaattcatca ggaagacatt caaatgaacg taaacaataa gggcagcgtc tgtatttgcg      60
154 gcagcgaaat gtcacctaaa ttctcattt accccatctg aggattgctt tatgacagta      120
155 aagtggattg aagcagtcgc tctttctgac atccttgaag gtgacgtcct cggcgtgact      180
156 gtcgagggca aggagctggc gctgtatgaa gttgaaggcg aaatctacgc taccgacaac      240
157 ctgtgcacgc atgggtccgc ccgcattgag gatggttatc tcgagggtag agaaatcgaa      300
158 tgcccttgac atcaaggtcg gtttgacgtt tgcaacaggca aagccctgtg cgcaccctgt      360
159 acacagaaca tcaaaacata tccagtcaag attgagaacc tgcgcgtaat gattgatttg      420
160 agctaagaat tttaacagga ggcaccccg ggcctagagc gtaatcaccc ccattccatc      480
161 ttttttaggt gaaaacatga attacaataa taaaatcttg gtaagtgaat ctgggtctgag      540

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162	ccaaaagcac	ctgattcatg	gcgatgaaga	acttttccaa	catgaactga	aaaccatttt	600
163	tgcgcggaac	tggctttttc	tcactcatga	tagcctgatt	cctgcccccg	gcgactatgt	660
164	taccgcaaaa	atgggggattg	acgaggtcat	cgtctcccg	cagaacgacg	gttcgattcg	720
165	tgcttttctg	aacgttttgcc	ggcatcgtgg	caagacgctg	gtgagcgtgg	aagccggcaa	780
166	tgccaaaggt	tttgtttgca	gctatcacgg	ctggggcttc	ggctccaacg	gtgaactgca	840
167	gagcgttcca	tttgaaaaag	atctgtacgg	cgagtcgctc	aataaaaaat	gtctgggggtt	900
168	gaaagaagtc	gctcgcgtgg	agagcttcca	tggcttcac	tacggttgc	tcgaccagga	960
169	ggccctcct	cttatggact	atctgggtga	cgctgcttgg	tacctggaac	ctatgttcaa	1020
170	gcattccggc	ggtttagaac	tggtcggtcc	tccaggcaag	gttgtgatca	aggccaactg	1080
171	gaaggcacc	gcggaaaact	ttgtgggaga	tgcataccac	gtgggttga	cgcacgcgtc	1140
172	ttcgcttcgc	tcgggggagt	ctatcttctc	gtcgtcgtc	ggcaatgcg	cgctaccacc	1200
173	tgaaggcgca	ggcttgcaaa	tgacctccaa	atacggcagc	ggcatgggtg	tgttgtggga	1260
174	cggatattca	ggtgtgcata	gcgcagactt	ggttcgggaa	ttgatggcat	tcggaggcgc	1320
175	aaagcaggaa	aggctgaaca	aagaaattgg	cgatgttcgc	gctcggattt	atcgagcca	1380
176	cctcaactgc	accgttttcc	cgaacaacag	catgctgacc	tgctcgggtg	ttttcaaagt	1440
177	atggaacccg	atcgacgcaa	acaccaccga	ggtctggacc	tacgccattg	tcgaaaaaga	1500
178	catgcctgag	gatctcaagc	gccgcttggc	cgactctgtt	cagcgaacgg	tcgggcctgc	1560
179	tggcttctgg	gaaagcgacg	acaatgacaa	tatggaaaca	gcttcgcaa	acggcaagaa	1620
180	atatcaatca	agagatagtg	atctgctttc	aaaccttgg	ttcgtgagg	acgtatacgg	1680
181	cgacgcggtc	tatccaggcg	tcgtcggcaa	atcggcgatc	ggcgagacc	gttatcgtg	1740
182	tttctaccgg	gcttaccagg	cacacgtcag	cagctccaac	tgggctgagt	tcgagcatgc	1800
183	ctctagtact	tggcatactg	aacttacgaa	gactactgat	cgctaacaga	cgagtcgacc	1860
184	atgatgatca	atattcaaga	agacaagctg	gtttccgccc	acgacgccga	agagattctt	1920
185	cgtttcttca	attgccacga	ctctgctttg	caacaagaag	ccactacgct	gctgaccag	1980
186	gaagcgcat	tgttggacat	tcaggcttac	cgtgcttgg	tagagcactg	cgtggggta	2040
187	gaggtgcaat	atcaggctcat	ttcacgcgaa	ctgcgcgcag	cttcagagcg	tcgttataag	2100
188	ctcaatgaag	ccatgaacgt	ttacaacgaa	aattttcagc	aactgaaaag	tcgagttgag	2160
189	catcaactgg	atccgcaaaa	ctggggcaac	agcccgaagc	tgcgctttac	tcgctttatc	2220
190	accaacgtcc	aggccgcaat	ggacgtaaat	gacaaagagc	tacttcacat	ccgctccaac	2280
191	gtcattctgc	accgggcacg	acgtggcaat	caggctcgatg	tcttctacgc	cgcccgggaa	2340
192	gataaatgga	aacgtggcga	aggtggagta	cgaaaattgg	tccagcgatt	cgtcgattac	2400
193	ccagagcgca	tacttcagac	gcacaatctg	atggctcttc	tgtgattcag	tgaccatttt	2460
194	tacaaatggt	cactgcaacc	gcggtcacca	ttaatcaaag	ggaatgtacg	tgtatgggca	2520
195	atcaacaagt	cgtttcgata	accggtgcag	gctcaggaat	cggtctcgaa	ctggttcggt	2580
196	cctttaagtc	ggccggttat	tacgtatccg	ctctcgtacg	aaacgaggag	caagaggcgc	2640
197	ttctttgcaa	agagttcaag	gacgcactcg	agattgtagt	ggcgatgtc	cgggaccacg	2700
198	caacaaatga	gaagctgata	aagcaaacaa	tcgatagatt	cggtcatctt	gattgtttta	2760
199	ttgcaaatgc	cggtatctgg	gattacatgc	tgagcatcga	agagccttgg	gagaaaaatat	2820
200	cgagcagttt	tgacgaaaata	ttcgacatta	atgtcaagag	ctatttcagt	ggcatcagtg	2880
201	ccgccctgcc	ggaactgaaa	aagactaacg	gatcagtggt	gatgaccgct	tcggtgtcgt	2940
202	cccatgcggt	cgggtggtgt	ggttcttgc	acatcgccag	caagcatgcg	gtgctcggt	3000
203	tggtaaggc	tttggcctac	gaattggccc	ccgaagtctg	cgtgaacgct	gtttcgccgg	3060
204	ggggcaccgt	gacgtctctg	tgcggtccc	cgagcgccgg	tttcgacaaa	atgcacatga	3120
205	aagacatgcc	cggcatcgac	gatatgatca	aaggtctcac	gcctcttggg	tttgagcca	3180
206	agcccgaaga	cgtggtggca	ccctatttgt	tgctggcttc	gcgaaagcaa	ggaaaattca	3240
207	tcaccggcac	cgtgattagc	attgatggcg	gtatggcgct	cggtcgcaag	tgagcttgta	3300
208	gccgatcaga	agttatagac	acatttcagg	tgacgcccga	tgaagacaaa	actgtttatc	3360
209	aataacgcct	ggatcgattc	tagtgaccag	cagaccttcg	agcgataaca	ccccgtcagc	3420
210	agcgatgtgg	tgactgagag	cgcaaacgcc	acagtgacgg	acgcgataaa	ggcggcgcaa	3480

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211	gcgggccgagg	agggcgttcaa	gacctggaag	gccgttggac	cttcagagcg	tcgcccgcctt	3540
212	ctcctaaaagg	tcgccgatgt	catggaaaagt	aaaacaccca	agttcatcga	agtgatggcc	3600
213	atggagggtgg	gagcttccgc	cctttggggcc	ggattcaacg	tccatgcgtc	tgccaatgtg	3660
214	ttccgagagg	ctgcctcgt	ggctacccaa	attcaggggtg	aaaccatccc	aacggacaaa	3720
215	gccgaaacgc	tctcaatgac	actacgtcag	ccggtcggcc	cgatcctaag	catcgttcca	3780
216	tggaaacggca	ccgcagtgt	tgcggcacga	gccatcgctt	atccgctggt	ctgtggcaac	3840
217	actgtggtgt	tcaaaggctc	tgaatttagt	cccgcgacgc	atgccctgat	caccagtg	3900
218	gtgcaggaa	ccgggctgcc	cgctggcggtg	ctcaattacc	tcaactcttc	gcctgaccgt	3960
219	tcgcccagaga	tcgtgacgc	actgatctct	gccaaaggaga	tccgccgcat	caacttcacg	4020
220	gggttccaccc	gcgtgggcag	cattatcgcg	cagaaaagccg	cgcaaacacct	caagcgctgc	4080
221	gtgctggagc	tcggcgccaa	gtccccgcctt	attgttctgg	atgatgcaga	catcgatgcg	4140
222	gcggtcaagg	cagcgggtgtt	cggtagcttc	ctgttccaa	gtcagatctg	catgtccact	4200
223	gagcgttga	tcgttgatga	gaagatagcc	gacgaatttg	tcgcaaaatt	tgtcgaaaaa	4260
224	actaagcgct	tgagcgcagg	cgacccgtgc	gtaactggcg	actgcatcat	cggcccgatg	4320
225	gtctcgccaa	attcgggtga	gcggatcaat	ggtttgttca	aagacgcgat	cgacaaaagg	4380
226	gcaaaagtgt	tttgccggcg	cttggcccaa	ggtgcgctca	tgccggccac	gatcctggat	4440
227	cacgtcaaat	ctgacatgcg	gatttacgat	gaggagacct	ttggtcccat	caccgtggtg	4500
228	atccgttgta	aaggcgaagc	agaggccgtc	cgcattgcca	acgacagcgt	ctatggcctg	4560
229	tcgtcgggcg	tatttgggccg	cgacatcaac	cgcgctctac	gcgtgggtat	gtccatcgaa	4620
230	tatggttctg	tacacatcaa	cggttcgacc	gtccagaacg	aggcgcaggc	tccttacgga	4680
231	ggcaccaaga	acaccggcta	cgggcgcttc	gacggccgtg	ctgtaatcga	cgagttcaca	4740
232	gagatcaagt	ggctgaccat	cgaacctttc	gagcagcaat	atcccttctg	ataagcacta	4800
233	actcccagga	atcaaaactat	gagtaagcaa	gctgcagtta	tcgagctcgg	atacatgggt	4860
234	atctcggtca	aggaccctga	tgcgtggaaa	tcatattgcca	cggatatgct	aggtctgcaa	4920
235	gttcttgatg	aggggtgagaa	ggaccgtttc	tatctgcgga	tggattactg	gcatcatcgg	4980
236	atcgtagtcc	atcacaacgg	acaggacgac	ttggagtacc	taggctggcg	tgtagccggc	5040
237	aagccggagt	tcgaagctct	gggtcaaaa	cttattgatg	ccggttaca	gatccgcatc	5100
238	tgcgacaaag	ttgaggctca	ggagcgatg	gtgttgggtc	tgatgaagac	agaagatccg	5160
239	ggcggcaacc	cgaccgagat	attctggggc	ccccggatcg	acatgagcaa	cccgttccat	5220
240	cccggctcgcc	ccctgcacgg	aaagtgtgtg	accggtgacc	aaggcttggg	ccattgcatc	5280
241	gttcgccaaa	ccgacgtcgc	agaagctcat	aagttttata	gcctgctggg	cttccgtggg	5340
242	gacgtcgaat	accggattcc	gttgcccaac	ggcatgactg	ccgaactgtc	gttcatgcat	5400
243	tgcaacgccc	gtgatcactc	cattgctttt	ggtgccatgc	ccgctgccaa	acgactcaat	5460
244	cacttgatgc	ttgagtacac	ccatatggaa	gacttgggat	acacgcacca	acagtttgta	5520
245	aagaacgaaa	ttgacattgc	cttgcagctt	ggcattcacg	ccaacgacaa	ggcgttgacg	5580
246	ttctatggtg	caacgccttc	gggctggctc	attgagcccg	gctggcgagg	tgccacggcc	5640
247	atagatgaag	cggagtatta	cgtcggcgac	atcttcggcc	atggcgtgga	ggccactgga	5700
248	tatggcctgg	atgtaaaaact	gagctaaaga	tgcgcgctcg	ttgggcgagg	ctctagtcca	5760
249	gcatcttcat	acgcaaccaa	ccttgcaggg	cgatgagatc	aaaggacgtt	aaagcgaagg	5820
250	ggaagtgggt	cgggccatgc	gcataccgat	ccatgacatt	tgtttcatag	tatataggtg	5880
251	gataggtgaa	tcaagcgctt	agtcaactag	tggacacatc	tgttccatga	ggctatctac	5940
252	tatctattca	aaacaagaat	aataaatagg	atgaaaaata	taatgataaa	aagaacgatt	6000
253	tgtcttgtgt	atcctctatt	ctgtttggca	agccccacat	gggccgaaga	gtcgccttgg	6060
254	acgtaccgta	ttggtatgac	taatgtagct	ttcgatgcta	gcgcaaaagt	atacttaaat	6120
255	ggtcagcggg	tgccaggagg	aagcgtgtat	gcgagcgata	acaacgcgct	tacattcgac	6180
256	ttcgggtacg	ccatcaacga	ccagtggaa	gtacgtgcga	ttgtcggtat	tccgcctaca	6240
257	actaaagtga	cgggcgcagg	cacacttcct	ggatccagc	tggggaaaaat	aacttacgct	6300
258	ccaacagtat	taacgttgaa	ctataacctc	cccgttttgg	gtcccgttcg	ccctcacata	6360
259	ggtgcggggag	tcaattacac	gcggattttt	gaaagtcggg	acgctaattct	aaaatcgttc	6420

Use of n and / or Xaa has been detected in the Sequence Listing. Review the Sequence Listing to ensure a corresponding explanation is present in the <220> to <223> fields of each sequence using n or Xaa.

VERIFICATION SUMMARY

DATE: 03/04/2002

PATENT APPLICATION: US/09/843,250

TIME: 15:02:40

Input Set : A:\09-843250 Sequence Listing.txt

Output Set: N:\CRF3\03042002\I843250.raw

L:569 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6

L:2069 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:19